


KENWOOD

GRAPHIC EQUALIZER  
**KE-294**

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## INSTRUCTION MANUAL

KENWOOD CORPORATION

B60-1611-08 (K, X, Y, R) 

# Introduction

Your choice of this product indicates that you are a devotee to excellence in sound reproduction.

We appreciate your patronage and take pride in the long tradition of quality components that our company represents.

So that you can get the most out of your unit, we suggest that you take the time to read through this manual before you hook up and operate your system. This will acquaint you with operating features and system-connection considerations so that your listening pleasure will be enhanced right from the start. You will notice that in all aspects of planning, engineering, styling, operating convenience and adaptability we have sought to anticipate your needs and desires.

**Keep this manual handy for future reference.**

## For your records

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your dealer for information or service on this product.

Model \_\_\_\_\_ Serial Number \_\_\_\_\_

## Unpacking

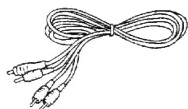
Unpack the unit carefully and make sure that all accessories are put aside so they will not be lost.

Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.

We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.




## Accessories

- Audio cord ..... 2



## Contents

**Caution:** Read the pages marked  carefully to ensure safe operation.

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# Before applying power

 **Caution:** Read this page carefully to ensure safe operation.

## For the U.S.A., Mexico and Canada

### Important!

Units shipped to the U.S.A., Mexico and Canada are designed for operation on **120 volts AC** only.

## For Australia and Europe

### Important!

Units shipped to Australia are designed for operation on **240 Volts AC** only.  
Units shipped to Europe are designed for operation on **230 Volts AC** only.

## For the United Kingdom

### Important!

Units shipped to the U.K. are designed for operation on **240 volts AC** only.

### Factory fitted moulded mains plug

1. The mains plug contains a fuse. For replacement, use only a 13-Amp ASTA-approved (BS1362) fuse.
2. The fuse cover must be refitted when replacing the fuse in the moulded plug.
3. Do not cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or adapter, or consult your dealer.  
If nonetheless the mains plug is cut off, remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

## For other countries

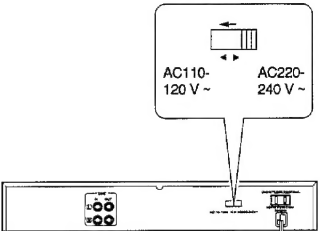
### Important!

Units shipped to countries other than the above countries are equipped with an AC voltage selector switch on the rear panel. Refer to the following paragraph for the proper setting of this switch.

### AC voltage selection

This unit operates on **110 - 120 volts** or **220 - 240 volts AC**. The AC voltage selector switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

### AC voltage selector switch







Move switch lever to match your line voltage with a small screwdriver or other pointed tool.

**Note:**  
Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC voltage selector switch.

# Safety precautions

**WARNING:** TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN		CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
	THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.		
	THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.		

## IMPORTANT SAFEGUARDS

 **Caution:** Read this page carefully to ensure safe operation.

Please read all of the safety and operating instructions before operating this appliance. Adhere to all warnings on the appliance and in the instruction manual. Follow all the safety and operating instructions. These safety and operating instructions should be retained for future reference.

**1. Power sources** – The appliance should be connected to a power supply only of the type described in the instruction manual or as marked on the appliance. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For appliances intended to operate from battery power, or other sources, refer to the instruction manual.

**2. Power-cord protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

Never pull or stretch the cord.

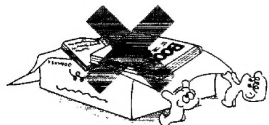


**3. CAUTION – Polarization** – This appliance may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

**4. Ventilation** – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the appliance and to protect it from overheating, and these openings must not be blocked or covered. The appliance should be situated so that its location or position does not interfere with its proper ventilation.

To maintain good ventilation, do not put records or a tablecloth on the appliance. Place the appliance at least 10 cm away from the walls.

Do not use the appliance on a bed, sofa, rug or similar surface that may block the ventilation openings. This appliance should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

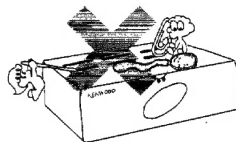


**5. Water and moisture** – The appliance should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

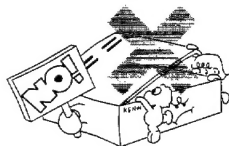
**6. Temperature** – The appliance may not function properly if used at extremely low, or freezing temperatures. The ideal ambient temperature is above +5°C (41°F).

**7. Heat** – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

**8. Electric shock** – Care should be taken so that objects do not fall and liquid is not spilled into the enclosure through openings. If a metal object, such as a hair pin or a needle, comes into contact with the inside of this appliance, a dangerous electric shock may result. For families with children, never permit children to put anything, especially metal, inside this appliance.



**9. Enclosure removal** – Never remove the enclosure. If the internal parts are touched accidentally, a serious electric shock might occur.



**10. Magnetic fields** – Keep the appliance away from sources of magnetic fields such as TV sets, speaker systems, radios, motorized toys or magnetized objects.

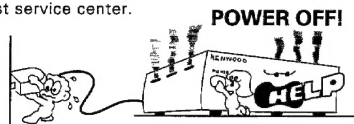
**11. Cleaning** – Unplug this appliance from the wall outlet before cleaning. Do not use volatile solvents such as alcohol, paint thinner, gasoline, or benzene, etc. to clean the cabinet. Use a clean dry cloth.

**12. Accessories** – Do not place this appliance on an unstable cart, stand, tripod, bracket, or table. The appliance may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the appliance. Any mounting of the appliance should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



**13. Lightning** – For added protection for this appliance during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the appliance due to lightning and power-line surges.

**14. Abnormal smell** – If an abnormal smell or smoke is detected, immediately turn the power OFF and unplug the appliance from the wall outlet. Contact your dealer or nearest service center.

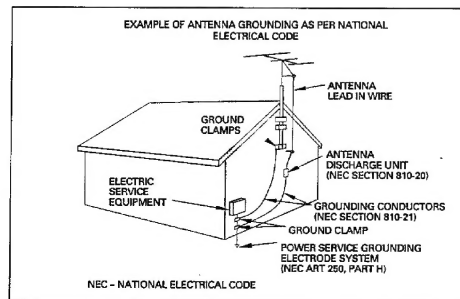


**15. Damage requiring service** – The appliance should be serviced by qualified service personnel when:

- A. The power-supply cord or the plug has been damaged.
- B. Objects have fallen, or liquid has been spilled into the appliance.
- C. The appliance has been exposed to rain or water.
- D. The appliance does not appear to operate normally by following the instruction manual. Adjust only those controls that are covered by the instruction manual as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the appliance to its normal operation.
- E. The appliance has been dropped, or the enclosure damaged.
- F. The appliance exhibits a marked change in performance.

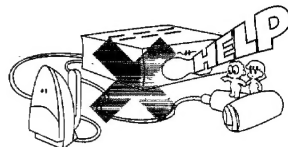
**16. Servicing** – The user should not attempt to service the appliance beyond that described in the instruction manual. All other servicing should be referred to qualified service personnel.

**17. Outdoor antenna grounding** – If an outside antenna is connected to the appliance, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Article 810 of the National Electrical Code (ANSI/NFPA 70), provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure.



**18. Power lines** – An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

**19. AC outlets** – Do not connect other audio equipment with a power consumption larger than that specified to the AC outlet on the rear panel. Never connect other electrical appliances, such as an iron or toaster, to it to prevent fire or electric shock.



**20. Overloading** – Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

**21. Attachment** – Do not use attachments not recommended by the appliance manufacturer as they may cause hazards.

**22. Replacement parts** – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards.

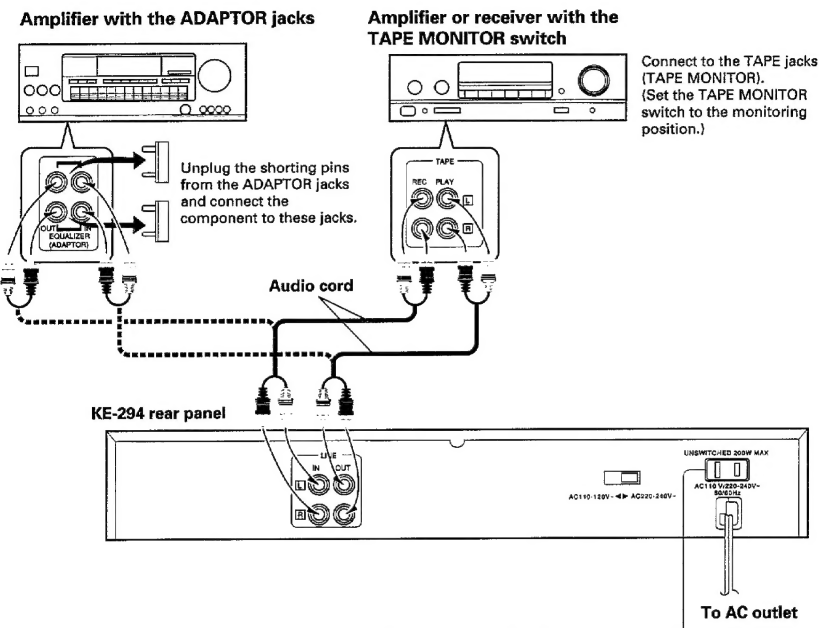
**23. Safety check** – Upon completion of any service or repairs to this appliance, ask the service technician to perform safety checks to determine that the appliance is in proper operating condition.

**Notes:**

1. Item 3 is not required except for grounded or polarized equipment.
2. Item 17 and 18 are not required except for units provided with antenna terminals.
3. Item 17 complies with UL in the U.S.A.

# System connections

Make connection as shown below. When connecting the related system components, refer also to the instruction manuals of the related components.  
Do not plug in the power lead until all connections are completed.

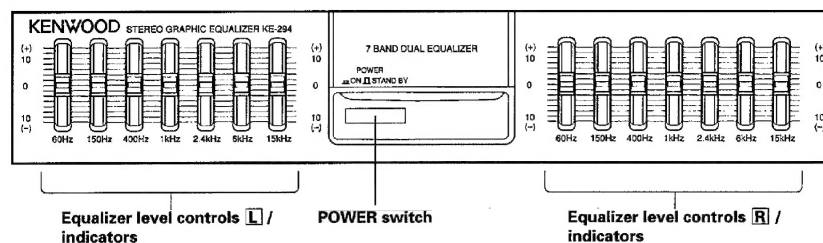


Unit destination	Shape of the AC outlet	AC Voltage selector
U.S.A., Mexico and Canada		AC120V 60Hz
U.S. Military		AC110V/220-240V~50/60Hz
Australia		Not equipped

- Notes:**
1. Connect all cords firmly. If connections are loose, there could be loss of sound or noise produced.
  2. When plugging and unplugging connection cords, be sure to first remove the power cord from the AC outlet. Plugging/unplugging connection cords without removal of the power cord can cause malfunctions or damage to the unit.
  3. Do not connect up a power source which is larger than that indicated on the socket at the rear of the unit.

# Operating instructions

Set the tape monitor switch of the connected amplifier.



Playing a source component connected to the amplifier

■ To apply equalizer effect to a program source connected to the amplifier:

1. Set the **POWER** switch to **ON** (I).
  - The equalizer level control indicators (L, R) light up.
2. Play the program source connected to the amplifier.
3. Adjust the tone with the L and R equalizer level controls.

**Note:**

To play back or record a source without the equalizer effect, set all the equalizer level controls to '0' (center).

Recording on a tape deck connected to the amplifier

■ To record sound containing the equalizer effect:

1. Set the **POWER** switch to **ON** (I).
  - The equalizer level control indicators (L, R) light up.
2. Adjust the tone with the L and R equalizer level controls.
3. Start recording on the tape deck.
  - Recording can be carried out on the tape deck connected to the amplifier's TAPE 1 jacks.

## Sound equalization

### Super bass range (60 Hz)

When these controls are moved up, bass instrument (double bass, bass drums, pipe organ, etc.) sound is increased. When the super bass sound is boomy, move these controls down.

### Bass range (150 Hz)

Usually, the listening room resonance frequency is in this range. To eliminate bass resonance, move these controls down.

### Mid-bass range (400 Hz)

This range is the basis of music. Whether the sound is rich or not depends on this range. When the playback sound is not so good, move this control up.

### Mid range (1 kHz)

When these controls are moved up or down, the baritone or soprano voice is emphasized/de-emphasized. This range is related to the "presence" of the music.

### Mid-high range (2.4 kHz)

This range is related to stimulus and metallic sound. When this range is well-compensated, a vivid sound can be obtained.

### High range (6 kHz)

This frequency range is related to the hardness of the sound. When this control is moved up, strings or brass, such as a flute or piccolo, are emphasized. When the control is moved down, the sound will be more soothing.

### Super high range (15 kHz)

This frequency range is related to the details of music. When these controls are moved up, super high frequency instruments, such as the triangle or cymbal, are emphasized, resulting in wide sound and echoes.

# In case of difficulty

What appears to be a malfunction may not always be serious. If your unit should not perform as expected, consult the table below to see if the problem can be corrected before seeking help from your dealer or service representative.

Symptom	Cause	Remedy
No sound although AC is switched on. Indicator not illuminated.	• Poor AC plug connection.	• Check plug contact.
No sound from LEFT and RIGHT	• Speaker cables disconnected. • Volume control of amplifier fully counterclockwise. • The INPUT selector does not correspond to the input source.	• Check speaker connections. • Turn up the volume control.  • Set the input selector to the position corresponding to the input source.
Sound from one side only.	• Speaker cords disconnected. • Input or output cable disconnected. • Balance control of amplifier set to one extreme or the other.	• Check speaker connection. • Check input or output connections. • Adjust the balance control of amplifier.

# Specifications

Equalizer characteristic	..... ± 10 dB
Variable range	..... 60 Hz, 150 Hz, 400 Hz, 1kHz, 2.4 kHz, 6 kHz, 15 kHz
Center frequencies	..... Less than 0.009% (20 Hz ~ 20 kHz)
Total harmonic distortion	..... 4.3 V (THD 0.01%)
Maximum output voltage	..... 96 dB (IHF-A network, 1 V)
S/N ratio	..... 47 kohms
Input impedance	..... 2 kohms
Output impedance	..... 5 W
General	..... W : 440 mm (17-5/16")
Power consumption	..... H : 74 mm (2-15/16")
Dimensions	..... D : 273 mm (10-3/4")
Weight	..... 2.3 kg (5.1 lb)

**Note:**  
KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.